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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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John C. Eidson

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EXAMINER

PHAN, THANH S

ART UNIT

PAPER NUMBER

2833

MAIL DATE

DELIVERY MODE

05/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/026,059	Applicant(s) EIDSON ET AL.	
	Examiner THANH S. PHAN	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,12-15,17,18,20 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6, 12-15, 18, 20, 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment or (response) filed 01/31/08 in which Claims 1, 3, 4, 6, 15, 17, 18, 20 been amended, has been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 6, 12, 13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathews et al. [US 6,686,649] in view of Luce et al.

Regarding claim 1, Mathews et al. disclose a circuit board [102, figure 4], comprising an electronic component [104] mounted on the circuit board; a heat-conducting structure [152; column 6, lines 7-11] immediately adjacent to the electronic component and increasing a thermal mass of the electronic component so as to reduce a thermal drift of the electronic component. Mathews et al. disclose that the electronic component(s) are semiconductor devices or application-specific integrated circuits [column 8, lines 23-27], but does not explicitly teach that the electronic component controls a frequency of a signal used by the circuit. Luce et al. teach a circuit [figure 2]

Art Unit: 2833

comprises an electronic component [98] controls a frequency used by the circuit [column 3, lines 51-53]. Because both Mathews et al. and Luce et al. teach circuit for use in electronic devices, it would have been obvious to one skill in the art to substitute one electronic component for the other to achieve the predictable result of controlling frequency in a circuit.

Mathews et al. and Luce et al. disclose the claimed invention except for saying that the structure reduces thermal drift/ increase thermal mass. It would have been obvious for the structure disclosed by Mathews et al. and Luce et al. to reduce thermal drift/increase thermal mass since a larger area for heat dissipation are provided. Further, reduced thermal drift will occur whenever thermal mass increased.

Regarding claims 3, 31, Mathews et al. and Luce et al. disclose the claimed invention. Mathews et al. further disclose wherein the structure comprises a metal case [152; column 6, lines 7-9] around the electronic component [a shown in figure 4].

Regarding claim 6, Mathews et al. and Luce et al. disclose the claimed invention. Mathews et al. further disclose a thermal insulator [154] that encases the structure.

Regarding claims 12 and 13, Mathews et al. and Luce et al. disclose the claimed invention. Luce et al. further disclose wherein the circuit is an oscillator/clock circuit [figure 5].

Regarding claim 28, 29, Mathews et al. and Luce et al. disclose the claimed invention [see claim 1 above]. Luce et al. further comprise an electronic component in form of a crystal [32] having a vibration frequency/activated [column 3, line 28].

4. Claims 4, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathews et al. and Luce et al. as applied to claim 1 above, and further in view of Mullins [US 4,736,069].

Regarding claims 4, 30, Mathews et al. and Luce et al. disclose the claimed invention, but do not teach wherein the structure comprises a ceramic case. Mullins teaches a ceramic cover that provided RF shielding for a substrate [abstract]. Because Mathews et al., as modified, and Mullins teach shielding structures for a circuit/substrate, it would have been obvious to one of skilled in the art to use a ceramic material as the material of the case to minimizes vibration degradation.

5. Claims 14, 15, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathews et al. and Luce et al. in view of Kirkpatrick.

Regarding claims 14, 17 and 20, Mathews et al. and Luce et al. as disclosed above; disclosed the instant claimed invention except for the clock circuit including means for communication via a network and means for synchronizing a local time value in a clock circuit in response to a set of messages transferred via by means of the network.

Kirkpatrick discloses a method of synchronizing a plurality of clock nodes [102, 104 and 106] via a network [figure 1].

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the network synchronizing design of Kirkpatrick with Mathews et al. and Luce et al.; for the purpose of providing accurate time to each node.

Regarding claim 15, Luce et al. further disclose the use of a crystal component [32].

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mathews et al., as modified, as applied to claim 15 above, and further in view of Mullins.

Regarding claim 18, Mathews et al., as modified, disclose the claimed invention except for wherein the structure comprises a ceramic case. Mullins teaches a ceramic cover that provided RF shielding for a substrate [abstract]. Because Mathews et al., as modified, and Mullins teach shielding structures for a circuit/substrate, it would have been obvious to one of skilled in the art to use a ceramic material as the material of the case to minimizes vibration degradation.

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mathew and Luce in view of Hobbs [US 4,659,236].

Regarding claim 32, Mathews and Luce disclose the claimed invention except for the thermal insulator is styrofoam.

Hobbs teaches a styrofoam block [24] serves as a thermal insulator in an electronic device [temperature sensor].

Since Mathews, Luce and Hobbs are from the same field of endeavor, teachings of electronic devices comprising thermal insulation, the purpose disclosed by Hobbs would have been recognized in the pertinent art of Mathews and Luce.

It would be obvious to one of ordinary skill in the art at the time of the invention was made to use a Styrofoam as an insulator as taught by Hobbs with Mathews and Luce for the predictable result of providing a great thermal insulation material.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 3, 4, 6, 12-15, 17, 18, 20, and 28-32 have been considered but are moot in view of the new ground(s) of rejection. However, the examiner would like to clarify the rejections therefore the following responses:

Regarding claim 1, Mathews discloses a heat-conducting structure 152, which is made of a metal as discussed at column 6, lines 7-11, immediately adjacent to the electronic component 104 and as shown in figure 4, since there is no component between 104 and 152 in this figure and/or embodiment. The component 152 is a heat-conducting material, and it encapsulated the component 104. Since the structural limitations are disclosed by Mathews as claimed, increases the thermal mass of electronic component 104, or reduces a thermal drift of the electronic 104 is expected. The examiner agrees with the applicant that in Luce, can 40 is not immediately adjacent to an electronic component. However, Luce was use for the teaching of the functionality of an electronic component and not the heatsink/emi shielding structure. Regarding the arguments for claims 3, 4, 6, and 12-14 the arguments are now moot in view of the new ground of rejections. Regarding claim 15, see claim 1 above. Regarding claims 17, 18 and 20, the arguments are now moot in view of the new ground of rejections.

Conclusion

9. **THIS ACTION IS MADE FINAL** necessitated by amendment. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THANH S. PHAN whose telephone number is (571)272-2109. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on 571-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2833

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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